IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF MICHIGAN

UNITED STATES OF AMERICA,	)	
	)	
Plaintiff,	)	
	)	
v.	)	Civil Action No.
	)	
THE DOW CHEMICAL COMPANY,	)	
	)	
Defendant.	)	
	)	

COMPLAINT

The United States of America, by the authority of the Attorney General and through the undersigned attorneys, acting at the request and on behalf of the Administrator of the United States Environmental Protection Agency ("EPA"), files this complaint and alleges as follows:

NATURE OF ACTION

1. This is a civil action against The Dow Chemical Company ("Dow" or "Defendant") for civil penalties and injunctive relief as a result of violations of the following statutes and regulations: (1) the Clean Air Act, as amended ("CAA"), 42 U.S.C. §§ 7401 *et seq.*, including the National Emission Standards for Hazardous Air Pollutants ("NESHAP") (40 C.F.R. Part 63, Subparts F, G, H, GGG, JJJ, MMM, and UUUU; and 40 C.F.R. Part 61, Subparts F and FF); (2) the Clean Water Act, as amended ("CWA"), 33 U.S.C. §§ 1251 *et seq.*; and (3) the Resource Conservation and Recovery Act, as amended ("RCRA"), 42 U.S.C. §§ 6901 *et seq*. This action is based on violations that occurred at Dow's chemical manufacturing and research facility in Midland, Michigan (the "Facility").

JURISDICTION AND VENUE

2. This Court has jurisdiction over the subject matter pursuant to 28 U.S.C. §§ 1331, 1345, and 1355; Section 113(b) of the CAA, 42 U.S.C. § 7413(b); Section 309(b) of the CWA, 33 U.S.C. § 1319(b); and Section 3008(a) of RCRA, 42 U.S.C. § 6928(a).

3. Venue is proper in this District pursuant to 28 U.S.C. §§ 1391 and 1395; Section 113(b) of the CAA, 42 U.S.C. § 7413(b); Section 309(b) of the CWA, 33 U.S.C. § 1319(b); and Section 3008(a) of RCRA, 42 U.S.C. § 6928(a).

NOTICE

4. The United States has provided notice of the commencement of this action to the State of Michigan as required by Section 113(b) of the CAA, 42 U.S.C. § 7413(b); Section 309(b) of the CWA, 33 U.S.C. § 1319(b); and Section 3008(a)(2) of RCRA, 42 U.S.C. § 6928(a)(2).

AUTHORITY

5. The United States Department of Justice has authority to bring this action on behalf of the Administrator of the EPA under 28 U.S.C. §§ 516 and 519 and, for the CAA claims, Section 305(a) of the CAA, 42 U.S.C. § 7605(a).

DEFENDANT

6. Dow is incorporated in the State of Delaware and does business in the State of Michigan.

7. Dow owns and operates a contiguous manufacturing and research site known by Dow as "Michigan Operations," the headquarters of which is located at 1790 Building, Washington Street, Midland, Michigan ("Facility").

8. Dow is a "person" within the meaning of Sections 113(b) and 302(e) of the CAA, 42 U.S.C. §§ 7413(b) and 7602(e); Section 502(5) of the CWA, 33 U.S.C. § 1362(5); and Section 1004(15) of RCRA, 42 U.S.C. § 6903(15).

CLEAN AIR ACT

I. STATUTORY AND REGULATORY BACKGROUND

9. The Clean Air Act establishes a regulatory scheme designed to protect and enhance the quality of the nation's air so as to promote the public health and welfare and the productive capacity of its population. 42 U.S.C. § 7401(b)(1).

A. National Emission Standards for Hazardous Air Pollutants

1. General

10. Section 112 of the Clean Air Act sets forth a national program for the control of hazardous air pollutants ("HAPs"). 42 U.S.C. § 7412. As originally promulgated in the Clean Air Act Amendments of 1970, Section 112 directed EPA to publish a list of HAPs. A HAP was defined as "an air pollutant to which no ambient air quality standard is applicable and which in the judgment of the Administrator may cause, or contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness." 42 U.S.C. § 1857c-7 (1971). At that time, Congress directed EPA to establish HAP standards that provided "an ample margin of safety to protect the public health from such hazardous air pollutant." *Id.*

11. Between 1970 and 1990, EPA listed eight substances as hazardous air pollutants and promulgated emission standards for seven of them. H.R. Rep. No. 101-490, 101st Cong., 2d Sess., pt 1 at 151 (1990). Of relevance to this action, vinyl chloride and benzene were two such listed HAPs, *id*, and EPA issued standards relating to them in Title 40 of the Code of Federal Regulations, Part 61, Subparts F and FF, respectively.

12. Through the Clean Air Act Amendments of 1990, Congress replaced the then-existing Section 112 and established a new program for the control of HAPs. H.R. Rep. No. 101-490, 101st Cong., 2d Sess., pt 1 at 324 (1990). The regulations then in existence under the original Section 112 remained in full force and effect.

13. With the 1990 amendments, Congress itself established a list of 188 hazardous air pollutants believed to cause adverse health or environmental effects. 42 U.S.C. § 7412(b)(1).

14. Congress directed EPA to publish a list of all categories and subcategories of, *inter alia*, major sources of HAPs. 42 U.S.C. § 7412(c).

15. "Major source" was and is defined as any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any HAP or 25 tons per year or more of any combination of HAPs. 42 U.S.C. § 7412(a)(1).

16. "Stationary source" was and is defined as any building, structure, facility, or installation which emits or may emit any air pollutant. 42 U.S.C. § 7412(a)(3) (stating that "stationary source" under Section 112(a) has the same meaning as that term has under Section 111(a) of the CAA, 42 U.S.C. § 7411(a)(3)).

17. A "category" of sources is a group of sources having some common features suggesting that they should be regulated in the same way and on the same schedule. 57 F.R. 31576, 31578 (July 16, 1992). A single stationary source can be comprised of multiple source categories. *Id.*

18. Congress directed EPA to promulgate regulations establishing emission standards for each category or subcategory of, *inter alia*, major sources of HAPs listed. 42 U.S.C. § 7412(d)(1). These emission standards must require the maximum degree of reduction

in emissions of HAPs that the Administrator, taking into consideration the cost of achieving such emission reduction, and any non-air quality health and environmental impacts and energy requirements, determines is achievable for the new or existing sources in the category or subcategory to which the emission standard applies. 42 U.S.C. § 7412(d)(2).

19. To the extent that it is not feasible to prescribe or enforce an emission standard for control of a HAP, Congress authorized EPA to promulgate "design, equipment, work practice, or operational" standards, which are to be treated as emission standards. 42 U.S.C. § 7412(h).

20. The emission standards promulgated under Section 112 of the 1990 Amendments to the CAA, 42 U.S.C. § 7412, are known as the National Emission Standards for Hazardous Air Pollutants ("NESHAPs") for Source Categories or "MACT" ("maximum achievable control technology") standards. These emission standards are found in Part 63 of Title 40 of the Code of Federal Regulations.

21. After the effective date of any emission standard, limitation, or regulation promulgated pursuant to Section 112 of the CAA, no person may operate a source in violation of such standard, limitation, or regulation. 42 U.S.C. § 7412(i)(3).

2. National Emission Standards for Organic Hazardous Air Pollutants (the "HON") Part 63, Subparts F, G, and H

22. Pursuant to Section 112(c) of the CAA, 42 U.S.C. § 7412(c), EPA identified synthetic organic chemical manufacturing as a source category of HAPs. 57 F.R. 31576, 31591 (Table 1) (July 16, 1992). This source category generally is referred to as "SOCMI" ("Synthetic Organic Chemical Manufacturing Industry").

23. Pursuant to Section 112(d) of the CAA, 42 U.S.C. § 7412(d), EPA promulgated the National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic

Organic Chemical Manufacturing Industry. 59 F.R. 19402 (April 22, 1994). These standards commonly are referred to as the "Hazardous Organic NESHAP" or the "HON."

24. The HON consists of four subparts in Part 63 of Title 40 of the Code of Federal Regulations: Subparts F, G, H, and I. *Id.* at 19405. Of relevance to this Complaint are Subparts F, G, and H.

25. Subpart F, in general, provides the applicability criteria for SOCMI sources, requires that owners and operators of SOCMI sources comply with Subparts G and H, and specifies general recordkeeping and reporting requirements. *Id.* Subpart G generally sets forth regulations governing process vents, storage vessels, transfer racks, and wastewater streams at SOCMI sources. *Id.* Subpart H, in turn, generally sets forth work practice standards relating to equipment leaks. *Id.*

a. Part 63, Subpart F

26. The requirements of Subpart F apply to chemical manufacturing process units that: (1) manufacture as a primary product tetrahydrobenzaldehyde, crotonaldehyde, or one or more of the chemicals listed in Table 1 of Subpart F; (2) use as a reactant or manufacture as a product, or co-product, one or more of the organic HAPs listed in Table 2 of Subpart F; and (3) are located at a plant site that is a major source as defined in Section 112(a) of the CAA. 40 C.F.R. § 63.100(b).

27. A "chemical manufacturing process unit" is defined, *inter alia*, as the equipment assembled and connected by pipes or ducts to process raw materials and to manufacture an intended product. *Id.* § 63.101(b).

28. Table 1 of Subpart F lists approximately 385 chemicals which constitute SOCMI products that may be produced by a HAP-emitting process. 40 C.F.R. Subpart F, Table 1; 59

Fed. Reg. 19402, 19405 (1994). Each chemical in Table 1 has a specific "Group Number" associated with it, ranging from Group I to Group V. The Group Number in Table 1 corresponds to the timing of the applicability of certain provisions of the HON.

29. Table 2 of Subpart F lists approximately 130 organic HAPs. 40 C.F.R. Subpart F, Table 2.

30. Owners and operators of sources that are subject to Subpart F are required to comply with Subparts G and H. 40 C.F.R. § 63.102(a).

b. Part 63, Subpart G: Process Vents

31. Subpart G applies, *inter alia*, to all process vents within a source that is itself subject to Subpart F. *Id.* § 63.110.

32. With certain exceptions not applicable here, owners and operators of existing sources were required to be in compliance with the applicable provisions of Subpart G by no later than April 22, 1997. *Id.* § 63.100(k)(2)(i).

c. Part 63, Subpart H – Equipment Leaks

33. Subpart H sets forth work practice standards and testing and recordkeeping requirements to ensure that any leaks of organic HAPs from equipment are timely detected and repaired. The provisions in Subpart H commonly are referred to as "Leak Detection and Repair" provisions, or "LDAR" for short.

34. The "equipment" to which Subpart H applies includes pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, surge control vessels, bottoms receivers, instrumentation systems, and control devices or closed-vent systems required by Subpart H that are intended to operate in organic HAP service 300 hours or more during the calendar year within a source subject to the

provisions of a specific Subpart in 40 C.F.R. Part 63 that references Subpart H. 40 C.F.R. § 63.160.

35. "In organic HAP service" means that a piece of equipment either contains or contacts a fluid (liquid or gas) that is at least 5% by weight of total organic HAPs. *Id.* § 63.161.

36. With certain exceptions not applicable here, existing sources were required to be in compliance with applicable provisions in Subpart H between October 24, 1994, and October 23, 1995, depending upon the "Group" status of the chemicals being manufactured. *Id.* § 63.100(k)(3)(i).

3. Pharmaceutical MACT – Part 63, Subpart GGG

37. Pursuant to Section 112(c) of the CAA, 42 U.S.C. § 7412(c), EPA identified pharmaceutical production as a category of sources of HAPs. 57 F.R. 31576, 31591 (Table 1) (July 16, 1992).

38. Pursuant to Section 112(d) of the CAA, 42 U.S.C. § 7412(d), EPA promulgated the National Emission Standards for Pharmaceuticals Production at 40 C.F.R. Part 63, Subpart GGG. 40 C.F.R. §§ 63.1250 – 63.1261. This commonly is referred to as "Subpart GGG" or the "Pharma MACT."

39. The "affected source" to which Subpart GGG applies is "pharmaceutical manufacturing operations" as defined in 40 C.F.R. § 63.1251. 40 C.F.R. § 63.1250(a).

40. "Pharmaceutical manufacturing operations" means the facility-wide collection of pharmaceutical manufacturing process units ("PMPUs") and any other equipment such as heat exchanger systems, wastewater manufacturing units, or cooling towers that are not associated with an individual PMPU, but that are located at a facility for the purpose of manufacturing pharmaceutical products and are under common control. *Id.* § 63.1251.

41. "Pharmaceutical manufacturing process unit" means the process and any associated storage tanks, specified equipment, and components such as pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, and instrumentation systems that are used in the manufacturing of a pharmaceutical product. *Id.* § 63.1251.

42. "Pharmaceutical product" means any of the following materials, excluding any material that is a nonreactive solvent, excipient, binder, or filler, or any material that is produced in a chemical manufacturing process unit that is subject to the requirements of Subparts F and G of Part 63: (1) any material described by the standard industrial classification ("SIC") code 2833 or 2834; (2) any material whose manufacturing process is described by North American Industrial Classification System ("NAICS") code 325411 or 325412; (3) a finished dosage form of a drug, for example, a tablet, capsule, solution, etc; (4) any active ingredient or precursor that is produced at a facility whose primary manufacturing operations are described by SIC code 2833 or 2834; or (5) at a facility whose primary operations are not described by SIC code 2833 or 2834, any material whose primary use is as an active ingredient or precursor. *Id.*

43. Subpart GGG applies to pharmaceutical manufacturing operations that manufacture a pharmaceutical product, are located at a plant site that is a major source, and that process, use, or produce a HAP. *Id.* § 63.1250(a).

44. Subpart GGG establishes general standards for pharmaceutical manufacturing operations, *id.* § 63.1252, as well as specific standards for several sources of potential emissions from those operations, including storage tanks, *id.* § 63.1253; process vents, *id.* § 63.1254; equipment leaks, *id.* § 63.1255; and wastewater, *id.* § 63.1256.

45. "Equipment" is defined as each pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, and instrumentation system in organic hazardous air pollutant service; and any control devices or closed-vent systems required by Subpart GGG. *Id.* § 63.1251.

46. The equipment leak provisions of Subpart GGG found at 40 C.F.R. § 63.1255 refer to and incorporate many of the requirements of the HON at 40 C.F.R. Part 63, Subpart H. 40 C.F.R. §§ 63.160-63.183.

47. Under Subpart GGG, affected sources that do not meet certain criteria not relevant here are deemed to be "existing affected sources." *Id.* § 63.1250(b). Under 40 C.F.R. § 63.1250(f)(1), existing affected sources were required to be in compliance with Subpart GGG by no later than October 21, 2002.

4. Group IV Polymers and Resins Mact – Part 63, Subpart JJJ

48. Pursuant to Section 112(c) of the CAA, 42 U.S.C. § 7412(c), EPA identified the production of, *inter alia*, seven polymers and resins as source categories of HAPs. 57 F.R. 31576, 31591 (Table 1) (July 16, 1992) (identifying as source categories the production of: acrylonitrile-butadiene-styrene; methyl methacrylate-acrylonitrile-butadiene-styrene; methyl methacrylate-butadiene-styrene terpolymers; polyethylene teraphthalate; polystyrene; and styrene-acrylonitrile); 61 F.R. 28197, 28202 (Table 1) (June 4, 1996) (identifying nitrile resins production).

49. Pursuant to Section 112(d) of the CAA, 42 U.S.C. § 7412(d), EPA regulated these source categories under what it called the National Emission Standards for Hazardous Air Pollutant Emissions: Group IV Polymers and Resins, found at 40 C.F.R. Part 63, Subpart JJJ.

40 C.F.R. §§ 63.1310 – 63-1336. These provisions commonly are referred to as "Subpart JJJ" or the "Group IV Polymers and Resins MACT."

50. The "affected source" to which the emission standards of Subpart JJJ apply is either an "existing affected source" or a "new affected source." 40 C.F.R. § 63.1310(a)(1).

51. Of relevance to this complaint, an "existing affected source" is defined, *inter alia*, as each group of one or more thermoplastic product process units ("TPPU") and associated equipment, as listed in 40 C.F.R. § 1310(a)(4), that is manufacturing the same primary product and is located at a plant site that is a major source for HAPs. 40 C.F.R. § 63.1310(a)(2).

52. A "TPPU" is defined as a collection of equipment assembled and connected by hard-piping or ductwork, used to process raw materials and to manufacture a thermoplastic product as its primary product. *Id.* § 1312(b).

53. "Associated equipment" includes, *inter alia*, equipment required by or utilized as a method of compliance with Subpart JJJ. *Id.* § 63.1310(a)(4).

54. A "thermoplastic product" is one of 19 specifically-identified products listed in the definition of "thermoplastic product" at *Id.* § 63.1312(b).

55. With certain differences that are inapplicable here, the owner or operator of each affected source under Subpart JJJ is required to comply with Subpart H. 40 C.F.R. § 63.1331(a).

56. "Equipment" for purposes of Subpart H compliance under 40 C.F.R. § 63.1331(a) does not have the same meaning as "associated equipment" under Subpart JJJ of 40 C.F.R. § 1310(a). Rather, "equipment" means each pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, surge control vessel, bottoms receivers, and instrumentation system in organic HAP service; and any control

devices or system required by Subpart H. 40 C.F.R. § 1312(b); 40 C.F.R. § 1331(a)(11) (stating that the term "equipment" for Subpart JJJ compliance is defined in 40 C.F.R. § 1312).

57. Existing affected source were required to be in compliance with 40 C.F.R. § 63.1331(a) (and therefore Subpart H) by no later than June 19, 2001. 40 C.F.R. § 63.1311(d).

5. Pesticide Active Ingredient MACT – Part 63, Subpart MMM

58. Pursuant to Section 112(c) of the CAA, 42 U.S.C. § 7412(c), in 1992, EPA identified, *inter alia*, ten categories of agricultural chemicals production as source categories of HAPs. 57 F.R. 31576, 31591 (Table 1) (July 16, 1992). In 1996, EPA transferred an initial source category – butadiene furfural cotrimer production – from the polymers and resins industry group to the agricultural chemicals group. 61 F.R. 28197, 28202 (Table 1) (June 4, 1996). Then, in 1999, EPA added more source category compounds to the list and grouped the initial and additional source categories into a single source category named "Pesticide Active Ingredient Production." 64 F.R. 33550, 33551 (June 23, 1999).

59. Pursuant to Section 112(d) of the CAA, 42 U.S.C. § 7412(d), EPA regulated this source category under what it called the National Emission Standards for Hazardous Air Pollutants for Pesticide Active Ingredient Production, found at 40 C.F.R. Part 63, Subpart MMM. 40 C.F.R. §§ 63.1360 – 63.1369. These provisions commonly are referred to as "Subpart MMM" or the "PAI MACT."

60. The "affected source" to which the emission standards of Subpart MMM apply is the facility-wide collection of pesticide active ingredient manufacturing process units ("PAI process units"). 40 C.F.R. § 63.1360(a). It also includes waste management units, heat exchange systems, and cooling towers that are associated with the PAI process units. *Id.*

61. A "PAI process unit" means a process unit that is used to produce a material that is primarily used as a pesticide active ingredient or an integral intermediate and consists of: the process, associated storage vessels, equipment, connected piping and ducts; and components such as pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, and instrumentation systems. *Id.* § 63.1361.

62. "Pesticide active ingredient" or "PAI" means any material that is an active ingredient within the meaning of Section 2(a) of the Federal Insecticide, Fungicide, and Rodenticide Act ("FIFRA"), 7 U.S.C. § 136(a); that is used to produce an insecticide, herbicide, or fungicide end use pesticide product; that consists of one or more organic compounds; and that is labeled in accordance with 40 C.F.R. Part 156 for transfer, sale, or distribution. *Id.* § 63.1361.

63. "Integral intermediate" means an intermediate for which 50 percent or more of the annual production is used in on-site production of any PAI(s) and that is not stored before being used in the production of another integral intermediate of PAI(s). *Id.*

64. Subpart MMM applies to PAI process units that process, use, or produce a HAP and are located at a plant site that is a major source. *Id.* § 63.1360(a).

65. Subpart MMM establishes standards for, *inter alia*, process vents, *id.* § 63.1362(b); storage vessels, *id.* § 63.1362(c); wastewater, *id.* § 63.1362(d); bag dumps and product dryers, *id.* § 63.1362(e); heat exchanger systems, *id.* § 63.1362(f); and equipment leaks, *id.* § 63.1363.

66. "Equipment" is defined as each pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, and instrumentation system in organic HAP service. *Id.* § 63.1361.

67. The equipment leak provisions of Subpart MMM found at 40 C.F.R. § 1363 refer to and incorporate many of the requirements of the Subpart H of the HON. *See, e.g., id.* § 1363(b).

68. Under Subpart MMM, affected sources that do not meet certain criteria are deemed to be "existing affected sources." *Id.* § 63.1360(b). Existing affected sources were required to be in compliance with Subpart MMM by no later than December 23, 2003. *Id.* § 63.1364(a). New sources were required to be in compliance on June 23, 1999, or upon startup, whichever is later. *Id.* § 1364(b).

6. Cellulose Products Manufacturing MACT – Part 63, Subpart UUUU

69. Pursuant to Section 112(c) of the CAA, 42 U.S.C. § 7412(c), in 1992, EPA identified, *inter alia*, six categories of production related to cellulose as source categories of HAPs. 57 F.R. 31576, 31591 (Table 1) (July 16, 1992) (cellulose food casings, rayon, cellophane, methyl cellulose, carboxymethyl cellulose, and cellulose ethers production). In 1999, EPA added another cellulose products manufacturing industry – cellulosic sponge manufacturing – that was not on the initial list. 64 F.R. 63026 (Nov. 18, 1999). Then, in 2000, EPA combined all cellulose-related source categories together to create two new source categories: "Miscellaneous Viscose Processes" and "Cellulose Ethers Production." 65 F.R. 52166 (August 28, 2000).

70. Pursuant to Section 112(d) of the CAA, 42 U.S.C. § 7412(d), EPA regulated these two source categories under what it called the National Emission Standards for Hazardous Air Pollutants for Cellulose Products Manufacturing, found at 40 C.F.R. Part 63, Subpart UUUU. 40 C.F.R. §§ 63.5480 – 63.5610. These provisions commonly are referred to as "Subpart UUUU."

71. Of relevance to this Complaint, the "affected source" for the Cellulose Ethers Production source category is each cellulose ether operation. 40 C.F.R. § 63.5490(b).

72. "Cellulose ether operation" means the collection of the cellulose ether process units and any other equipment, such as heat exchanger systems, wastewater and waste management units, or cooling towers, that are not associated with an individual cellulose either process unit, but are located at a cellulose ether operation for the purpose of manufacturing a particular cellulose ether and are under common control. *Id.* § 63.5610.

73. "Cellulose ether process" means a manufacturing process that includes the following steps: (i) reaction of cellulose (*e.g.*, wood pulp or cotton linters) with sodium hydroxide to produce alkali cellulose; (ii) reaction of the alkali cellulose with a chemical compound(s), such as ethylene oxide, propylene oxide, methyl chloride, or chloroacetic acid, to produce a particular cellulose ether; (iii) waste and purification of the cellulose ether; and (iv) drying of the cellulose ether. *Id.* Solids handling steps downstream of the drying process are not considered part of the cellulose ether process. *Id.*

74. "Cellulose ether process unit" means all equipment associated with a cellulose ether process which collectively function to manufacture a particular cellulose ether and any associated storage vessels, liquid streams in open systems, and equipment that are used in the manufacturing of a particular cellulose ether. *Id.*

75. Subpart UUUU applies to cellulose ether operations that are located at a major source of HAP emissions. *Id.* § 63.5485(a).

76. Under Subpart UUUU, the equipment leak provisions in Subpart H, 40 C.F.R. § 63.162-63.179, or the equipment leak provisions in Subpart UU, 40 C.F.R. § 63.1021-63.1037, apply. 40 C.F.R. § 63.5505(a) and Table 1 to Subpart UUUU.

77. Under Subpart UUUU, affected sources that do not meet certain criteria are deemed to be "existing affected sources." 40 C.F.R. § 63.5490(f). Existing cellulose ether operations were required to be in compliance with Subpart UUUU by no later than June 13, 2005. *Id.* § 63.5495(b)(1).

7. Vinyl Chloride NESHAP – Part 61, Subpart F

78. Pursuant to Section 112 as it existed prior to the CAA Amendments of 1990, EPA listed vinyl chloride as a hazardous air pollutant and issued regulations related to its control. 41 F.R. 46564 (October 21, 1976). These regulations were and are published at 40 C.F.R. Part 61, Subpart F. 40 C.F.R. §§ 61.60-61.71. These regulations commonly are referred to as the "Vinyl Chloride NESHAP."

79. The Vinyl Chloride NESHAP applies to plants which produce: (1) ethylene dichloride by reaction of oxygen and hydrogen chloride with ethylene; (2) vinyl chloride by any process; and/or (3) one or more polymers containing any fraction of polymerized vinyl chloride. 40 C.F.R. § 61.60(a).

80. Unless an exemption or a two-year waiver of compliance was granted, existing sources were required to be in compliance with the Vinyl Chloride NESHAP by no later 90 days after October 21, 1976. 40 C.F.R. § 61.05(c). New sources were required to be in compliance upon startup. *Id.* § 61.05(b).

8. Benzene Waste Operations NESHAP—Part 61, Subpart FF

81. Pursuant to Section 112 as it existed prior to the CAA Amendments of 1990, EPA listed benzene as a hazardous air pollutant and promulgated standards related to the control of benzene in waste operations. 55 F.R. 8292 (March 7, 1990). Thereafter, in 1993, EPA finalized the regulations, 58 F.R. 3072 (January 7, 1993), and published them at 40 C.F.R. Part 61,

Subpart FF. 40 C.F.R. §§ 61.340-61.359. These regulations commonly are referred to as the "Benzene Waste Operations NESHAP" or "Subpart FF."

82. Subpart FF applies, *inter alia*, to chemical manufacturing plants and to hazardous waste treatment, storage, and disposal facilities ("TSDFs"). 40 C.F.R. §§ 61.340(a), (b).

83. A "chemical manufacturing plant" means any facility engaged in the production of chemicals by chemical, thermal, physical, or biological processes for use as a product, co-product, by-product, or intermediate including but not limited to industrial organic chemicals, organic pesticide products, pharmaceutical preparations, paint and allied products, fertilizers, and agricultural chemicals. 40 C.F.R. § 61.341.

84. A "hazardous waste treatment, storage, and disposal facility" is a facility that must obtain a hazardous waste management permit under subtitle C of the Solid Waste Disposal Act. 40 C.F.R. § 61.340(b).

85. Unless an exemption or a two-year waiver of compliance was granted, existing sources were required to be in compliance with the Benzene Waste Operations NESHAP by no later 90 days after January 7, 1993. 40 C.F.R. § 61.05(c). New sources were required to be in compliance upon startup. *Id.* § 61.05(b).

9. Violation of the NESHAPs

86. After the effective date of any emission standard, limitation, or regulation promulgated pursuant to Section 112 of the CAA, no person may operate such source in violation of such standard, limitation, or regulation. 42 U.S.C. § 7412(i)(3).

B. Enforcement of the CAA

87. Section 113(a)(3) of the CAA, 42 U.S.C. § 7413(a)(3), authorizes EPA to bring a civil action if the Administrator of EPA finds that any person is in violation of, *inter alia*, any regulations promulgated under Section 112 of the CAA, 42 U.S.C. § 7412.

88. Section 113(b) of the CAA, 42 U.S.C. § 7413(b), authorizes the Court to enjoin a violation, to require compliance, to assess and recover a civil penalty, and to award any other appropriate relief for each violation.

89. Section 113(b) of the CAA, 42 U.S.C. § 7413(b), authorizes civil penalties of up to $25,000 per day for each violation of the CAA.

90. The Civil Penalties Inflation Act of 1990, 28 U.S.C. § 2461 *et seq.*, as amended by the Debt Collection Improvements Act of 1996, 31 U.S.C. § 3701 *et seq.*, requires EPA to periodically adjust its civil penalties for inflation. On December 31, 1996, February 13, 2004, and December 11, 2008, EPA adopted and revised regulations entitled "Adjustment of Civil Monetary Penalties for Inflation," 40 C.F.R. Part 19, to upwardly adjust the maximum civil penalty under the CAA. For each violation that occurs between January 31, 1997, and March 15, 2004, inclusive, penalties of up to $27,500 per day may be assessed; for each violation that occurs between March 16, 2004, and January 12, 2009, inclusive, penalties of up to $32,500 per day may be assessed; and for each violation that occurs on and after January 13, 2009, penalties of up to $37,500 per day may be assessed. 60 F.R. 69360 (December 31, 1996); 60 F.R. 7121 (February 12, 2004); 73 F.R. 75340 (December 11, 2008).

II. CLEAN AIR ACT CLAIMS: 1 - 21

Claims 1 – 19: Claims under the MACT Standards at 40 C.F.R. Part 63, Subparts G, H, GGG, JJJ, MMM, and UUUU
Claims 20 – 21: Claims under the Vinyl Chloride and Benzene Waste Operations NESHAP at 40 C.F.R. Part 61, Subparts F and FF

General Allegations Related to Claims 1 – 19

91. Dow was and/or is the "owner or operator," as defined in Section 112(a)(9) of the CAA, 42 U.S.C. § 7412(a)(9), of plants and processes at the Facility.

92. The plants and processes that Dow owned and/or owns or operated and/or operates at the Facility include a building, structure, facility, or installation which emits or may emit any air pollutant.

93. The plants and processes that Dow owned and/or owns or operated and/or operates at the Facility include "stationary sources" within the meaning of Section 112(a)(3) of the CAA, 42 U.S.C. § 7412(a)(3).

94. The plants and processes that Dow owned and/or owns or operated and/or operates at the Facility are a group of stationary sources located within a contiguous area and under common control that emit or have the potential to emit considering controls, in the aggregate, 10 tons per year of more of any HAP or 25 tons per year of more of any combination of HAPs.

95. The plants and processes that Dow owned and/or owns or operated and/or operates at the Facility are a "major source" within the meaning of Section 112(a)(1) of the CAA, 42 U.S.C. § 7412(a).

CLEAN AIR ACT
CLAIM 1: Violation of the HON (Subpart G)
(Other than Leak Detection and Repair Provisions)
Failure to Identify a Process Vent

96. Plaintiff realleges and incorporates by reference Paragraphs 7-8 and 91-95 as if fully set forth herein.

97. At all times relevant to this Complaint, Dow owned and operated a process unit that manufactured as a primary product chloroacetic acid.

98. Chloroacetic acid is a listed chemical in Table 1 of Subpart F and an organic HAP listed in Table 2 of Subpart F. The chloroacetic acid manufacturing unit at the Facility is a "chemical manufacturing process unit" with the meaning of Subpart F, 40 C.F.R. §§ 63.100(b), 63.101(b), and is subject to Subparts F, G, and H of the HON. 40 C.F.R. § 63.102(a).

99. Owners or operators of facilities subject to the HON are required to determine whether their affected units have any process vents subject to Subpart G. 40 C.F.R. § 63.107(a).

100. A "process vent" is defined as the point of discharge to the atmosphere (or the point of entry into a control device, if any) of a gas stream if the gas stream has certain characteristics specified in 40 C.F.R. § 63.107(b) – (h), or meets certain criteria specified in 40 C.F.R. § 63.107(i). 40 C.F.R. § 63.101(b).

101. Subpart G classifies process vents into two groups – Group 1 and Group 2 – and has different standards depending upon the group designation. 40 C.F.R. §§ 63.113(a)-(c) (Group 1 process vents); 63.113(d)-(g) (Group 2 process vents).

102. The methods and procedures for making a process vent "group" determination are set forth in 40 C.F.R. § 63.115.

103. The chloroacetic acid manufacturing unit includes a vessel known as a decanter. The decanter discharges to the atmosphere a gas stream that meets the characteristics specified in

40 C.F.R. § 63.107(b)-(h). Therefore, the decanter has a "process vent" within the meaning of 40 C.F.R. § 63.101(b). The process vent standards 40 C.F.R. Part 63, Subpart G apply to this process vent.

104. Until 2007, Dow failed to identify this process vent as subject to Subpart G and failed to undertake a determination of whether this process vent was a "Group 1" or "Group 2" vent. These failures were in violation of Section 112 of the CAA, 42 U.S.C. § 7412, and its implementing regulations at 40 C.F.R. §§ 63.107(a) and 63.115, respectively.

CLEAN AIR ACT
CLAIMS 2 – 9: Violation of the Pharmaceutical MACT (Subpart GGG)
(Other than Leak Detection and Repair Provisions)

General Allegations Related to Claims 2 – 9

105. Plaintiff realleges and incorporates by reference Paragraphs 7-8 and 91-95 as if fully set forth herein.

106. Dow owned and/or owns or operated and/or operates process units in buildings at the Facility identified by the following numbers: 1, 827, 1200, and 1382.

107. The process units housed in Buildings 1, 827, 1200, and 1382 manufactured and/or manufacture "pharmaceutical products" within the meaning of 40 C.F.R. § 63.1251, including but not limited to, fexofenadine, zopiclone, enoximine, ranolazine, sevelamer hydrochloride, oligo, and travaprost.

108. These process units used and/or use hazardous air pollutants within the meaning of Section 112(b)(1) of the CAA, 42 U.S.C. § 7412(b)(1), including but not limited to, methanol, zylene, hydrogen chloride, methylene chloride, chloromethyl methyl ether, and acetonitrile.

109. These process units were and/or are "pharmaceutical manufacturing process units" within the meaning of 40 C.F.R. § 63.1251. The facility-wide collection of these PMPUs,

including equipment not associated with an individual PMPU, constituted and/or constituted "pharmaceutical manufacturing operations" within the meaning of 40 C.F.R. § 63.1251.

110. The pharmaceutical manufacturing operations in Buildings 1, 827, 1200, and 1382 constituted or constitute "existing affected sources" under Subpart GGG because they were constructed prior to April 2, 1997, and not reconstructed after that date. 40 C.F.R. § 1250(b).

111. For the pharmaceutical manufacturing operations in Buildings 1, 827, 1200, and 1382, Dow was required to comply with Subpart GGG on and after October 21, 2002.

112. For these pharmaceutical manufacturing operations, in a report known as the Notification of Compliance Status report ("March 2003 GGG NOCS Report") due on March 20, 2003, 40 C.F.R. § 1260(f), Dow was required to provide the results of all applicability determinations, emission calculations, or analyses used to identify and quantify HAP emissions, *id.* § 1260(f)(1); the results of all emissions profiles, performance tests, engineering analyses, design evaluations, or calculations used to demonstrate compliance, *id.* § 1260(f)(2); and descriptions of all monitoring devices, monitoring frequencies, and the values of monitored parameters established during initial compliance demonstrations. *Id.* § 1260(f)(3).

CLEAN AIR ACT
CLAIM 2
Subpart GGG
Failure to Determine Subpart GGG Applicability for Eleven Process Vents in Buildings 827 and 1382 and, as a Result thereof, Failure to Properly Demonstrate Initial Compliance with the Process Vent Standards

113. Plaintiff realleges and incorporates by reference Paragraphs 7-8, 91-95, and 105-112 as if fully set forth herein.

114. Subpart GGG includes control standards for, *inter alia*, process vents. In order to comply with these standards, an owner or operator must identify all process vents within an

existing source. 40 C.F.R. § 63.1254(a). An owner or operator must then demonstrate initial compliance with these standards. *Id.* § 63.1257(d)(1).

115. In its March NOCS Report, Dow failed to identify eleven vents, known by Dow as "spot vents," in Buildings 827 and 1382 as process vents subject to the requirements of 40 C.F.R. § 63.1254(a). Consequently, in its March 2003 GGG NOCS Report, Dow failed to include HAP emissions from these vents in demonstrating initial compliance with the process vent standards.

116. The failures by Dow described in the preceding Paragraph are in violation of Section 112 of the CAA, 42 U.S.C. § 7412, and the implementing regulations at 40 C.F.R. §§ 63.1254(a); 63.1257(d)(1).

CLEAN AIR ACT
CLAIM 3
Subpart GGG
Failure to Demonstrate Initial Compliance with 40 C.F.R. § 63.1254(a) through Failure to Properly Use Required Emission Estimation Procedures to Calculate Uncontrolled Emissions in Buildings 827, 1200, and 1382

117. Plaintiff realleges and incorporates by reference Paragraphs 7-8, 91-95, and 105-112 as if fully set forth herein.

118. The process vent standards of Subpart GGG require that the owner or operator of an existing affected source comply with either: (i) the process-based emission reduction requirements of 40 C.F.R. § 63.1254(a)(1) and the individual vent emission reduction requirements of 40 C.F.R. § 63.1254(a)(3); or (ii) the process-based annual mass limit ("PBAML") requirements of 40 C.F.R. § 63.1254(a)(2) and the individual vent emission reduction requirements of 40 C.F.R. § 63.1254(a)(3). *Id.* § 63.1254(a).

119. With certain exceptions not relevant here, under either alternative, initial compliance with these standards must be demonstrated by calculating, *inter alia*, uncontrolled

HAP emissions using the procedures described in 40 C.F.R. § 63.1257(d)(2). *Id.* § 63.1257(d)(1)(i),(ii).

120. Of relevance this complaint, Dow was required to calculate uncontrolled HAP emissions in Buildings 827, 1200, and 1382 using the emission estimation procedures in 40 C.F.R. § 63.1257(d)(2)(i).

121. In its initial compliance demonstration for process vents in Buildings 827, 1200, and 1382, as set forth in its March 2003 GGG NOCS Report, Dow failed to undertake all emissions estimations in accordance with the required procedures, including failing to perform emissions estimations for cleaning operations and failing to account for toluene in the emissions estimations, in violation of Section 112 of the CAA, and the implementing regulations at 40 C.F.R. §§ 63.1257(d)(1)(i) – (ii); 63.1257(d)(2)(i).

CLEAN AIR ACT
CLAIM 4
Subpart GGG
Failure to Demonstrate Initial Compliance with 40 C.F.R. § 63.1254(a)
Through Failure to Determine Controlled Emissions from Scrubbers
in Buildings 827 and 1382

122. Plaintiff realleges and incorporates by reference Paragraphs 7-8, 91-95, 105-112, and 118 as if fully set forth herein.

123. With certain exceptions not relevant here, initial compliance with the process vent standards in 40 C.F.R. § 63.1254(a) must be demonstrated by determining, *inter alia*, controlled HAP emissions using the procedures described in 40 C.F.R. § 63.1257(d)(3). *Id.* § 63.1257(d)(1)(i),(ii).

124. For purposes of determining controlled HAP emissions, Subpart GGG establishes procedures for determining controlled emissions from, *inter alia*, small control devices. *Id.* §§ 63.1257(d)(3), 63.1257(d)(3)(i).

125. Controlled emissions from small control devices must be determined either by using a design evaluation described in 40 C.F.R. § 63.1257(d)(3)(i)(A) or by conducting a performance test in accordance with 40 C.F.R. § 63.1257(d)(3)(ii).

126. Five scrubbers serve as small control devices in Building 827 and one scrubber serves as a small control device Building 1382.

127. In its initial compliance demonstration for process vents in Buildings 827 and 1382, as set forth in its March 2003 GGG NOCS Report, Dow failed to determine controlled emissions from the scrubbers referenced in the preceding paragraph, in violation of Section 112 of the CAA, 40 U.S.C. § 7412, and the implementing regulations at 40 C.F.R. §§ 63.1257(d)(1)(i)-(ii); 63.1257(d)(3)(i).

CLEAN AIR ACT
CLAIM 5
Subpart GGG
Failure to Demonstrate Initial Compliance with 40 C.F.R. § 63.1254(a)
Through Failure to Conduct Initial Compliance Demonstrations on Condensers
in Buildings 827, 1200, and 1382

128. Plaintiff realleges and incorporates by reference Paragraphs 7-8, 91-95; 105-112, 118, and 123 as if fully set forth herein.

129. For purposes of determining controlled HAP emissions, Subpart GGG establishes procedures for determining emissions from, *inter alia*, condensers. 40 C.F.R. § 63.1257(d)(3)(iii).

130. Condensers are classified into two categories: condensers functioning as process condensers and condensers functioning as air pollution control devices. *Id.*

131. With certain exceptions not relevant here, for condensers operating as process condensers, the owner or operator must demonstrate initial compliance with one of the following two requirements: either the condenser exhaust gas temperature must be less than the boiling or

bubble point of the substance in the vessel or a material balance around the vessel and condenser must show that at least 99 percent of the material vaporized while boiling is condensed. 40 C.F.R. § 63.1257(d)(3)(iii)(B).

132. For condensers operating as air pollution control devices, the owner or operator must demonstrate initial compliance using the emission estimate equations in 40 C.F.R. § 63.1257(d)(3)(i)(B). 40 C.F.R. § 63.1257(d)(3)(iii)(A).

133. Approximately 30 condensers function and/or functioned as process condensers in Buildings 827, 1200, and 1382.

134. Five condensers function and/or functioned as air pollution control devices in Buildings 827 and 1382.

135. In its March 2003 GGG NOCS Report, Dow failed to conduct initial compliance demonstrations on one or more of the condensers in Buildings 827, 1200, and 1382, that function and/or functioned as process condensers and on one or more condensers in Buildings 827 and 1382 that function and/or functioned as air pollution control devices, in violation of Section 112 of the CAA, 40 U.S.C. § 7412, and the implementing regulations at 40 C.F.R. §§ 63.1257(d)(1)(i)- (ii); 63.1257(d)(3)(i)(B); 63.1257(d)(3)(iii)(A); 63.1257(d)(3)(iii)(B).

CLEAN AIR ACT
CLAIM 6
Subpart GGG
Failure to Ensure Continuous Compliance with the Standards in Subpart GGG By (1) Failing to Establish an Operating Temperature for Four Condensers Functioning as Control Devices and Failing to Measure and Record this Temperature; and (2) Failing to Undertake a Daily Verification that Another Condenser Functioning as a Control Device was Operating Properly

136. Plaintiff realleges and incorporates by reference Paragraphs 7-8, 91-95, and 105-112 as if fully set forth herein.

137. During the initial demonstration to establish compliance with the standards in Subpart GGG, the owner or operator of an affected source must establish maximum or minimum operating parameters, as appropriate, to indicate that the source is in compliance with the applicable standard. 40 C.F.R. § 63.1258(a).

138. Except as described in Paragraph 143 below, in order to ensure continuous compliance with the applicable standards, for each control device installed and operated to comply with any such standard, the owner or operator must install monitoring devices and must operate the control devices within established parameter levels. 40 C.F.R. § 63.1258(b)(1).

139. Except as described in Paragraph 143 below, the owner or operator of each condenser functioning as a control device must install a temperature monitoring device at the condenser exit. *Id.* and Table 4 of Subpart GGG.

140. Except as described in Paragraph 143 below, the owner or operator of a condenser functioning as a control device must establish a maximum condenser outlet gas temperature or product side temperature as a site specific operating parameter and must measure and record this temperature at least every 15 minutes during the period in which a condenser is functioning as a control device. *Id.* § 63.1258(b)(1)(iii).

141. Three condensers in Building 827 functioning as a control device and one condenser in Building 1382 functioning as a control device were subject to the requirements of 40 C.F.R. § 63.1258(b)(1)(iii).

142. For the four condensers referenced in the preceding Paragraph, Dow failed to establish a maximum condenser outlet gas temperature or product side temperature in its March 2003 GGG NOCS Report, and consequently failed, until approximately the summer of 2006, to measure and record this temperature at least every 15 minutes, in violation of

Section 112 of the CAA, 42 U.S.C. § 7412, and its implementing regulations at 40 C.F.R. §§ 63.1258(a); 63.1258(b)(1)(iii).

143. In lieu of the requirements in Paragraphs 138, 139, and 140, for control devices that control vent streams totaling less than 1 ton/yr of HAP emissions, before control, monitoring consists of a daily verification that the device is operating properly. *Id.* § 63.1258(b)(1)(i).

144. One of the condensers in Building 827 functioning as a control device controlled vent streams totaling less than 1 ton/yr of HAP emissions, before control, and thus was subject to requirements of 40 C.F.R. § 63.1258(b)(1)(i).

145. For the condenser referred to in the preceding Paragraph, until approximately the summer of 2006, Dow failed to undertake a daily verification that the condenser was operating properly, in violation of Section 114 of the CAA, and its implementing regulation at 40 C.F.R. § 63.1258(b)(1)(i).

CLEAN AIR ACT
CLAIM 7
Subpart GGG
Failure to Operate a Control Device (Steam Stripper)
within Established Operating Parameters and
Failure to Meet HAP Reduction Requirements in Wastewater

146. Plaintiff realleges and incorporates by reference Paragraphs 7-8, 91-95, and 105-112 as if fully set forth herein.

147. Subpart GGG includes control standards for, *inter alia*, wastewater. 40 C.F.R. § 63.1256. Of relevance to this complaint, with certain alternatives not applicable here, the owner or operator of wastewater containing partially soluble HAP compounds must reduce, by removal or destruction, the mass of total partially soluble HAP compounds by 99 percent or more. *Id.* § 63.1256(g)(8)(ii).

148. In 2003, Dow manufactured, *inter alia*, fexofenadine in Building 1 at the Facility. In this process, Dow used methylene chloride. Methylene chloride is a partially soluble HAP.

149. For the fexofenadine process in Building 1, Dow was required to comply with the removal requirements of 40 C.F.R. § 63.1256(g)(8)(ii). Dow elected to do so through the use of a steam stripper identified as T-2110.

150. During the initial compliance demonstration, Dow was required to establish maximum or minimum operating parameter levels, as appropriate, for T-2110 to demonstrate compliance with the removal efficiency standards of 40 C.F.R. § 63.1256(g)(8)(ii). 40 C.F.R. § 63.1258(a).

151. In its initial compliance demonstration for T-2110, Dow established the following operating parameters: a steam flow rate of greater than 200 lb/hr; an influent waste flow rate of less than1500 lb/hr; and a stripper column operating temperature of greater than 97.5 degrees Celsius.

152. In order to demonstrate continuous compliance with the removal efficiency standards of 40 C.F.R. § 63.1256(g)(8)(ii), Dow was required to operate T-2110 within the parameters it established. 40 C.F.R. § 63.1258(b)(1).

153. On 115 days in 2003, Dow failed to operate T-2110 within the established parameters, in violation of Section 112 of the CAA, 42 U.S.C. § 7412, and its implementing regulation at 40 C.F.R. § 63.1258(b)(1).

154. On 8 of those 115 days, Dow failed to reduce the mass of total partially soluble HAP compounds by 99 percent or more, in violation of Section 112 of the CAA, 42 U.S.C. § 7412, and its implementing regulation at 40 C.F.R. § 63.1256(g)(8)(ii).

CLEAN AIR ACT
CLAIM 8
Subpart GGG
Failure to Maintain Daily Records of the Rolling Annual Total HAP Emissions from the Zopiclone Process in Building 827

155. Plaintiff realleges and incorporates by reference Paragraphs 7-8, 91-95, 105-112, and 118 as if fully set forth herein.

156. An owner or operator of an existing source that elects to comply with the process-based annual mass limit ("PBAML") requirements of 40 C.F.R. § 1254(a)(2), must maintain up-to-date and readily accessible daily records of the rolling annual total HAP emissions. 40 C.F.R. § 63.1259(b)(4).

157. Because Dow elected to comply with the PBAML requirements for the Zopiclone process in Building 827, Dow was required to maintain up-to-date and readily accessible daily records of the rolling annual total HAP emissions from this process.

158. From October 2002, until October 2005, Dow failed maintain up-to-date and readily accessible daily records of the rolling annual total HAP emissions from the Zopiclone process in Building 827, in violation of Section 112 of the CAA, 42 U.S.C. § 7412, and its implementing regulation at 40 C.F.R. § 63.1259(b)(4).

CLEAN AIR ACT
CLAIM 9
Subpart GGG
Failure to Accurately Report HAP Emission Calculations from Process Vents within the Zopiclone and Ranolazine Processes in Building 827 and the Travaprost Process in Building 1382

159. Plaintiff realleges and incorporates by reference Paragraphs 7-8, 91-95, and 105-112 as if fully set forth herein.

160. In its March 2003 GGG NOCS Report, Dow failed to accurately report the results of its emission calculations from process vents within the Zopiclone and Ranolazine processes in

Building 827 and within the Travaprost process in Building 1382, in violation of Section 112 of the CAA, 42 U.S.C. § 7412, and its implementing regulations at 40 C.F.R. § 63.1260(f)(1).

CLEAN AIR ACT
CLAIMS 10 – 14: Violation of the Pesticide Active Ingredient MACT (Subpart MMM) (Other than Leak Detection and Repair Provisions)

General Allegations Related to Claims 10 – 14

161. Plaintiff realleges and incorporates by reference Paragraphs 7-8 and 91-95 as if fully set forth herein.

162. Dow owned and/or owns or operated and/or operates process units in buildings at the Facility identified by the following numbers: 477, 680, and 1028.

163. The process units housed in Buildings 477, 680, and 1028 manufactured and/or manufacture a "pesticide active ingredient" or an "integral intermediate" within the meaning of those terms set forth in 40 C.F.R. § 63.1361, including but not limited to, triclopyr triethylamine salt ("Garlon 3A"), flumetsulam, chloransulam, diclosulam, and penoxsulam.

164. These process units used and/or use hazardous air pollutants within the meaning of Section 112(b)(1) of the CAA, 42 U.S.C. § 7412(b)(1), including but not limited to, triethylamine, methanol, chlorine, methylene chloride, quinoline, acetonitrile, hydrochloric acid, and toluene.

165. These process units were and/or are "PAI process units" within the meaning of 40 C.F.R. § 63.1361. The facility-wide collection of these PAI process units was and/or is an "affected source" subject to regulation under Subpart MMM. *Id.* § 63.1360(a).

166. The PAI process units in Buildings 477 and 680 constitute or constituted "existing affected sources" under Subpart MMM because they were constructed prior to November 10, 1997, and were not reconstructed after that date. *Id.* § 63.1360(b). For these PAI process units,

Dow was required to comply with Subpart MMM on and after December 23, 2003. *Id.* § 63.1364(a).

167. The PAI process unit in Building 1028 constitutes or constituted a "new affected source" because it was constructed after November 10, 1997. For this PAI process unit, Dow was required to comply with Subpart MMM on and after startup, which occurred in October 2004.

168. For the PAI process units in Buildings 477, 680, and 1028, in a report known – as it is under Subpart MMM – as the Notification of Compliance Status report ("PAI NOCS Report"), Dow was required to provide the results of all applicability determinations, emission calculations, or analyses used to identify and quantify HAP emissions, 40 C.F.R. § 63.1368(f)(1); the results of all emissions profiles, performance tests, engineering analyses, design evaluations, or calculations used to demonstrate compliance, *id.* § 63.1368(f)(2); and descriptions of all monitoring devices, monitoring frequencies, and the values of monitored parameters established during initial compliance demonstrations. *Id.* § 63.1368(f)(3).

CLEAN AIR ACT
CLAIM 10
Subpart MMM
Failure to Demonstrate Initial Compliance with 40 C.F.R. § 63.1362(b)
Through Failure to Conduct Initial Compliance Demonstrations on Process Condensers
in the Garlon 3A, Penoxsulam, Chloransulam, Diclosulam, and Flumetsulam Processes

169. Plaintiff realleges and incorporates by reference Paragraphs 7-8, 91-95, and 161-168 as if fully set forth herein.

170. Subpart MMM includes control standards for, *inter alia*, process vents. 40 C.F.R. § 63.1362(b). With certain exceptions not relevant here, initial compliance with these process vent standards must be demonstrated by undertaking compliance demonstrations for condensers. 40 C.F.R. §§ 63.1365(c)(2)(i)(D)*(3)*; 63.1365(c)(3)(iii).

171. Under Subpart MMM, as with Subpart GGG, condensers are classified into two categories: condensers functioning as process condensers and condensers functioning as air pollution control devices. 40 C.F.R. §§ 63.1365(c)(2)(i)(D)*(3)*; 63.1365(c)(3)(iii).

172. With certain exceptions not relevant here, for condensers operating as process condensers, the owner or operator must either measure the condenser exhaust gas temperature and show it is less than the boiling point of the substance(s) in the vessel or perform a material balance around the vessel and condenser to show that at least 99 percent of the material vaporized while boiling is condensed. 40 C.F.R. § 63.1365(c)(2)(i)(D)*(3)*.

173. Three condensers (identified as E-361A, E-361B, and E-362) in the Garlon 3A process function and/or functioned as process condensers; one condenser (identified as E-355) in the Penoxsulam process function and/or functioned as a process condenser; and four condensers (identified as E-4305, E-4555, E-4557, E-5538) in one or more of the Chloransulam, Diclosulam, and Flumetsulam processes function and/or functioned as process condensers.

174. In its PAI NOCS Reports for the Garlon 3A, Penoxsulam, Chloransulam, Diclosulam, and Flumetsulam processes, Dow failed to include initial compliance demonstrations for the process condensers referred to in the preceding Paragraph, in violation of Section 112 of the CAA, 42 U.S.C. § 7412, and its implementing regulation at 40 C.F.R. § 63.1365(c)(2)(i)(D)*(3)*.

CLEAN AIR ACT
CLAIM 11
Subpart MMM
Failure to Comply with the Required Procedures for Aggregating into One Group Status Four Wastewater Streams in the Penoxsulam Process;
Or, In the Alternative, Failure to Determine the Group Status of Each Individual Stream And Thereafter Comply with Tank Inspection Requirements

175. Plaintiff realleges and incorporates by reference Paragraphs 7-8, 91-95, and 161-168 as if fully set forth herein.

176. Subpart MMM includes control standards for, *inter alia*, wastewater. 40 C.F.R. § 63.1362(d). Under Subpart MMM, with certain exceptions not relevant here, affected sources are required to comply with the wastewater standards found in the HON at 40 C.F.R. §§ 63.132 - 63.147. 40 C.F.R. § 63.1362(d).

177. The HON classifies wastewater streams into two categories: Group 1 and Group 2. 40 C.F.R. § 63.132(c). Different standards apply depending upon the Group classification. *Compare, e.g.,* 40 C.F.R. § 63.132(a)(2) *with* § 63.132(a)(3).

178. For both new and existing sources, an owner or operator can either: (1) undertake a determination of whether a particular stream is a Group1 or Group 2 stream, 40 C.F.R. § 63.132(a)(1)(i) (existing sources), 63.132(b)(1)(i), (2)(i) (new sources) and comply with the requirements related to the status; or (2) designate the stream as Group 1 (the more stringent classification) and comply with the requirements related to Group 1 streams. *Id.* §§ 63.132(a)(1)(ii)(existing sources), 63.132(b)(1)(ii), (2)(ii) (new sources).

179. For purposes of the second option referred to in the preceding Paragraph, an owner or operator may designate a wastewater stream or a mixture of wastewater streams as a Group 1 stream only if certain procedures are followed. *Id.* § 63.132(e). The procedures include

the requirement to comply with certain emission suppression requirements set forth in 40 C.F.R. §§ 63.133 – 63.137. *Id.* § 63.132(e)(1), (2).

180. The Penoxsulam process generates, *inter alia,* four wastewater streams. These streams are designated as the V-226, V-350, V-360, and the wastewater stream consisting of the mother liquid exiting the pressure filter.

181. In its PAI NOCS Report for the Penoxsulam process, Dow aggregated these four wastewater streams together and classified them as a Group 1 wastewater stream. Because Dow subsequently failed to comply with certain emission suppression requirements, Dow's aggregation was in violation of Section 112 of the CAA, 42 U.S.C. § 7412, and its implementing regulations at 40 C.F.R. §§ 63.132(a)(1)(ii); 63.132(a)(2)(ii); 63.132(e).

182. In the alternative to the allegation in Paragraph 181, Dow failed to undertake a specific determination of the Group status of each of the four wastewater streams referred to in Paragraph 180, in violation of Section 112 of the CAA, 42 U.S.C. § 7412, and its implementing regulations at 40 C.F.R. §§ 63.132(a)(1)(i), (2)(i); 63.132(c).

183. By failing to undertake the Group determination identified in Paragraph 182, Dow failed to designate one tank in the Penoxsulam process (identified as Tank V-254) as a wastewater tank handling a Group 1 wastewater stream. For this tank, Dow was required, *inter alia*, to inspect it initially upon startup and semi-annually thereafter. 40 C.F.R. §§ 63.132(a)(2); 63.133(f), (h).

184. In the alternative to the allegation in Paragraph 181, Dow failed to inspect Tank V-254 initially upon startup in October 2004 and semi-annually thereafter until October 2006, in violation of Section 112 of the CAA, 42 U.S.C. § 7412, and its implementing regulations at 40 C.F.R. §§ 63.132(a)(2); 63.133(f),(h).

CLEAN AIR ACT
CLAIM 12
Subpart MMM
Failure to Comply with the Required Procedures for Aggregating into One Group Status Eleven Wastewater Streams in the Chloransulam, Diclosulam, and Flumetsulam Processes; Or, In the Alternative, Failure to Determine the Group Status of Each Individual Stream And Thereafter Comply with Tank Inspection Requirements

185. Plaintiff realleges and incorporates by reference Paragraphs 7-8, 91-95, 161-168, and 176-179 as if fully set forth herein.

186. The Chloransulam, Diclosulam, and Flumetsulam processes generate, *inter alia*, eleven wastewater streams. The wastewater streams are designated as follows: V-4501; R-4530 wash water discharge; V-9100 knock-out pot (flumetsulam); CF-4550 (flumetsulam); V-4556 (flumetsulam); V-4530; V-4556; CF-4550(DCM); R-4530 water rinse; V-9100 knock-out pot (DCM); and V-9110 knock-out pot.

187. In its PAI NOCS Report for the Chloransulam, Diclosulam, and Flumetsulam processes, Dow aggregated these eleven wastewater streams together and designated them as a Group 1 wastewater stream. Because Dow subsequently failed to comply with certain emission suppression requirements, Dow's aggregation was in violation of Section 112 of the CAA, 42 U.S.C. § 7412, and its implementing regulations at 40 C.F.R. §§ 63.132(a)(1)(ii); 63.132(e).

188. In the alternative to the allegation in Paragraph 187, Dow failed to undertake a specific determination of the Group status of each of the eleven wastewater streams referred to in Paragraph 186, in violation of Section 112 of the CAA, 42 U.S.C. § 7412, and its implementing regulations at 40 C.F.R. §§ 63.132(a)(1)(i); 63.132(c).

189. By failing to undertake the Group determination set forth in Paragraph 188, Dow failed to designate one tank in these processes (identified as Tank R-4705) as a wastewater tank

handling a Group 1 wastewater stream. For this tank, Dow was required, *inter alia*, to inspect it initially upon startup and semi-annually thereafter. 40 C.F.R. §§ 63.132(a)(2)(i); 63.133(f), (h).

190. In the alternative to the allegation in Paragraph 187, Dow failed to inspect Tank V-254 initially in December 2003 and semi-annually thereafter until April 2006, in violation of Section 112 of the CAA, 42 U.S.C. § 7412, and its implementing regulations at 40 C.F.R. §§ 63.132(a)(2)(i); 63.133(f),(h).

CLEAN AIR ACT
CLAIM 13
Subpart MMM
Failure to Keep a Record that Determined
Which of the Overlapping Requirements in Subpart MMM and RCRA
Applicable to Tank V-4615 Were More Stringent

191. Plaintiff realleges and incorporates by reference Paragraphs 7-8, 91-95, and 161-168 as if fully set forth herein.

192. Under Subpart MMM, the owner or operator of an affected wastewater stream that is also subject to the implementing regulations of the Resource Conservation and Recovery Act ("RCRA") at 40 C.F.R. Parts 260 through 272 is required to comply with the more stringent control requirements and the more stringent testing, monitoring, recordkeeping, and reporting requirements for any provisions that overlap between Subpart MMM and 40 C.F.R. Parts 260 through 272. 40 C.F.R. § 1360(i)(5). The owner or operator must keep a record of the information used to determine which of the requirements were the most stringent and must submit this information if requested by EPA. *Id.*

193. Tank V-4615 is a wastewater tank in the Flumetsulam process that receives a Group 1 wastewater stream and is subject to Subpart MMM. Tank V-4615 also is a tank regulated under RCRA. Tank V-4615 is subject to overlapping provisions in 40 C.F.R. Parts 260 through 272.

194. Dow failed to keep a record of the information used to determine which of the overlapping requirements as between Subpart MMM and RCRA applicable to Tank V-4615 were more stringent, in violation of Section 112 of the CAA, 42 U.S.C. § 7412, and its implementing regulation at 40 C.F.R. § 63.1360(i)(5).

CLEAN AIR ACT
CLAIM 14
Subpart MMM
Improper Reporting of Group Status of Process Vents
In the Garlon 3A Process Unit

195. Plaintiff realleges and incorporates by reference Paragraphs 7-8, 91-95, and 161-168 as if fully set forth herein.

196. Subpart MMM classifies process vents into two categories: Group 1 and Group 2. 40 C.F.R. § 63.1361 (definitions of "Group 1 process vent" and "Group 2 process vent").

197. A Group 1 process vent means any process vent at an existing or new affected source for which the uncontrolled HAP emissions from the sum of all process vents are greater than or equal to 0.15 Mg/yr and/or the uncontrolled hydrogen chloride and chlorine emissions from the sum of all process vents are greater than or equal to 6.8 Mg/yr. *Id.* A Group 2 process vent means any process vent that does not meet the definition of a Group 1 process vent.

198. The Garlon 3A process unit had or has process vents within the meaning of 40 C.F.R. § 63.1361.

199. In its PAI NOCS Report for the Garlon 3A process, Dow improperly reported the Group status of the process vents in the Garlon 3A process unit, in violation of Section 112 of the CAA, and its implementing regulation at 40 C.F.R. § 63.1368(f)(1).

CLEAN AIR ACT
CLAIMS 15 – 19: Violation of the Leak Detection and Repair Provisions

CLEAN AIR ACT
CLAIM 15
Subparts H, GGG, JJJ, MMM, and UUUU:
Failure to Monitor Valves, Pumps, and Connectors; Failure to Inspect Pumps

200. Plaintiff realleges and incorporates by reference Paragraphs 7-8 and 91-95 as if fully set forth herein.

201. Subpart H (in its own right and as referred to and incorporated into Subparts GGG, JJJ, MMM, and UUUU) generally requires owners and operators to monitor equipment for leaks. With certain alternatives and exceptions not relevant here, an owner or operator subject to Subpart H is required to monitor valves, pumps and connectors in gas/vapor and light liquid service by the method specified in 40 C.F.R. § 63.180(b). 40 C.F.R. §§ 63.168(b)(1) (valves); 63.163(b)(1) (pumps); 63.174(a)(1) (connectors).

202. 40 C.F.R. § 63.180(b)(1), in turn, requires each owner or operator to comply with the monitoring procedures and requirements of Method 21 at 40 C.F.R. Part 60, Appendix A.

203. Method 21, at 40 C.F.R. Part 60, Appendix A-7, Meth.21, Section 8.3.1, requires the owner or operator of an affected source to do as follows:

> Place the probe inlet [of the portable instrument that is capable of detecting emissions from equipment] at the surface of the component interface where leakage could occur. Move the probe along the interface periphery while observing the instrument readout. If an increased meter reading is observed, slowly sample the interface where leakage is indicated until the maximum meter reading is obtained. Leave the probe inlet at this maximum reading location for approximately two times the instrument response time. If the maximum observed meter reading is greater than the leak definition in the applicable regulation, record and report the results [as a leaking component].

204. With certain exceptions and alternatives not relevant here, Dow was required to monitor valves using Method 21 on a quarterly basis, 40 C.F.R. §§ 63.168(b), 63.168(d)(2), and pumps using Method 21 on a monthly basis. *Id.* § 63.163(b)(1).

205. Dow was required to monitor all connectors using Method 21 within 12 months after the effective date of an applicable subpart. *Id.* § 63.174(b)(1).

206. Dow was required to visually inspect all pumps on a weekly basis for indications of liquids dripping from the pump seal. *Id.* § 63.163(b)(3).

207. The units/buildings listed in Appendix A housed process units that were subject to 40 C.F.R. Part 63, Subparts H, GGG, JJJ, MMM, and UUUU.

208. For the process units/buildings, pieces of equipment, and time periods set forth in Appendix A, Dow failed to undertake Method 21 monitoring and weekly visual inspections, in violation of Section 112 of the CAA, 42 U.S.C. § 7412, and the implementing regulations at 40 C.F.R. §§ 63.168(b); 63.168(d)(2); 63.163(b)(1); 63.174(b)(1); 63.163(b)(3).

CLEAN AIR ACT
CLAIM 16
Subparts H and JJJ
Failure to Perform Method 21 Monitoring Correctly

209. Plaintiff realleges and incorporates by reference Paragraphs 7-8, 91-95, and 201-203 as if fully set forth herein.

210. A process unit known as the ETHOCEL ™ (EGB5) process unit was/is a chemical manufacturing process unit subject to the Subpart H of the HON.

211. Process units known as the Low Gloss ABS Unit (EG31), ABS Latex (EG30), SAN (or Tyril) (EG38), polystyrene (EG33), were/are thermoplastic product process units subject to Subpart JJJ, and by reference, Subpart H of the HON.

212. For the period between July 2005 and June 2006, Dow failed to perform Method 21 monitoring correctly for valves in the ETHOCEL ™ (EGB5) process unit; valves and connectors in the Low Gloss ABS Unit (EG31); connectors in the ABS Latex (EG30) and Tyril (EG38) process units; and agitators in the polystryrene unit (EG33), in violation of Section 112 of the CAA, 42 U.S.C. § 7412, and the implementing regulations at 40 C.F.R. § 63.180(b)(1); 40 C.F.R. Part 60, Appendix A-7, Meth.21, Section 8.3.1.

CLEAN AIR ACT
CLAIM 17
Subpart H
Failure to Record Weekly Visual Inspection of Pumps

213. Plaintiff realleges and incorporates by reference Paragraphs 7-8, 91-95, and 201 as if fully set forth herein.

214. Pumps housed in Buildings 599 and 954 were/are subject to Subpart H of the HON.

215. Under Subpart H, Dow was required to document the date of each weekly inspection of pumps required under 40 C.F.R. § 63.163(b)(3). *Id.* § 63.181(c).

216. Dow failed to document visual inspections of one pump in Buildings 599 and 954 for one week in January 2006, one week in March 2006, and one week in April 2006, in violation of Section 112 of the CAA, 42 U.S.C. § 7412, and the implementing regulation set at 40 C.F.R. § 63.181(c).

CLEAN AIR ACT
CLAIM 18
Subparts H and GGG
Failure to Timely Repair a Leaking Pump

217. Plaintiff realleges and incorporates by reference Paragraphs 7-8, 91-95, and 201 as if fully set forth herein.

218. Pumps housed in Building 1200 were/are subject to Subpart H of the HON.

219. Under Subpart H, Dow was required to repair and remonitor all leaking pumps within 15 calendar days after a leak was detected. 40 C.F.R. §§ 63.163(b)(3); 63.161.

220. On or about April 17, 2006, Dow failed, within 15 calendar days, to verify through remonitoring that a pump in Building 1200 had been adequately repaired, in violation of Section 112 of the CAA, 42 U.S.C. § 7412, and the implementing regulations at 40 C.F.R. §§ 63.163(b)(3); 63.161.

CLEAN AIR ACT
CLAIM 19
Subparts H, GGG, JJJ, MMM, and UUUU:
Failure to Equip Open-Ended Lines with a Closure Device

221. Plaintiff realleges and incorporates by reference Paragraphs 7-8, 91-95, and 201 as if fully set forth herein.

222. The emissions units, buildings and processes listed in Appendix B to this complaint were/are subject to Subpart H of the HON.

223. With certain exceptions not relevant here, Subpart H requires each open-ended valve or line ("OEL") to be equipped with a cap, blind flange, plug, or second valve. 40 C.F.R. § 63.167(a)(1).

224. For certain OELs in the process units/buildings and time periods set forth in Appendix B, Dow failed to equip each OEL with a cap, blind flange, plug, or second valve, in violation of Section 112 of the CAA, 42 U.S.C. § 7412, and the implementing regulation at 40 C.F.R. § 63.167(a)(1).

CLEAN AIR ACT
CLAIM 20
Vinyl Chloride NESHAP: 40 C.F.R. Part 61, Subpart F
Failure to Correctly Identify the Selected Monitoring Alternative
In Periodic Reports

225. Plaintiff realleges and incorporates by reference Paragraphs 7-8 as if fully set forth herein.

226. At all times relevant to this complaint, Dow owned and operated a processing area, known as the SARAN™ processing area, that manufactured two types of polymer resins: (1) a resin that was a copolymer of vinyl chloride and vinylidene chloride; and (2) a resin that was a copolymer of methyl acrylate and vinylidene chloride.

227. At all times relevant to this complaint, Dow was subject to the Vinyl Chloride NESHAP, 40 C.F.R. Part 61, Subpart F, at the SARAN™ plant because the SARAN™ plant produced one or more polymers containing any fraction of polymerized vinyl chloride. 40 C.F.R. § 61.60(a).

228. Under the Vinyl Chloride NESHAP, an owner or operator must implement a leak detection and repair ("LDAR") program consistent with the requirements of 40 C.F.R. Part 61, Subpart V (National Emission Standard for Equipment Leaks/Fugitive Emission Sources). *Id.* § 61.65(b)(8)(ii).

229. With respect to valves, under certain circumstances, the Vinyl Chloride NESHAP provides the owner or operator with two monitoring alternatives: periodic monitoring, through the use of Method 21, of all valves subject to the Vinyl Chloride NESHAP, 40 C.F.R. § 61.65(b)(8)(ii); or initial and annual monitoring, through the use of Method 21, of a randomly-selected percentage of all valves in VOC service. 40 C.F.R. § 61.65(b)(8)(ii)(A),(B).

230. In periodic reports describing LDAR compliance, the owner or operator of a plant subject to the Vinyl Chloride NESHAP must identify which alternative it has selected. *Id.* § 61.247(a)(5).

231. In periodic reports that Dow submitted from approximately September 2002 through September 2007, Dow incorrectly identified the compliance alternative it had selected, in violation of Section 112 of the CAA, 42 U.S.C. § 7412, and its implementing regulations at 40 C.F.R. §§ 61.65(b)(8)(ii); 61.247(a)(5).

CLEAN AIR ACT
CLAIM 21
Benzene Waste Operations NESHAP: 40 C.F.R. Part 61, Subpart FF
Failure to Separately Identify each Waste Stream at its Point of Waste Generation in Annual Reports

232. Plaintiff realleges and incorporates by reference Paragraphs 7-8 as if fully set forth herein.

233. At the Facility, Dow owned and/or owns or operated and/or operates a "chemical manufacturing plant" and a hazardous waste "treatment, storage, and disposal facility" within the meaning of the Benzene Waste Operations NESHAP, 40 C.F.R. Part 61, Subpart FF. Dow was/is subject to Subpart FF.

234. Under Subpart FF, each owner or operator must submit an initial report containing, *inter alia*, the following information: (1) the Total Annual Benzene ("TAB") quantity from facility waste determined in accordance with 40 C.F.R. § 61.355(a); and (2) a table identifying each waste stream and whether the waste stream will be controlled for benzene emissions.

235. Under Subpart FF, the owner or operator must submit reports that update the information set forth in the initial report. 40 C.F.R. § 61.357(b) – (d). Of relevance to this

action, facilities with TABs of 1 megagram/year or more must submit these reports annually and are required to include updated information on the facility's TAB. *Id.* § 61.357(c).

236. The "TAB" quantity is the sum of the annual benzene quantity for each waste stream at the facility that has a flow-weighted annual average water content greater than 10 percent or that is mixed with water, or other wastes, at any time and the mixture has an annual average water content greater than 10 percent. *Id.* § 61.342(a).

237. The owner or operator must determine its TAB quantity by multiplying the annual waste quantity of each facility waste stream by the flow-weighted annual average benzene concentration of each such waste stream. *Id.* § 61.355(a)(1)(iii).

238. The owner or operator must determine the annual waste quantity at the point of waste generation. *Id.* § 61.355(b). "Point of waste generation" means the location where the waste stream exits the process unit component or storage tank prior to handling or treatment in an operation that is not an integral part of the production process, or in the case of waste management units that generate new wastes after treatment, the location where the waste stream exits the waste management unit component. *Id.* § 61.341.

239. In its initial report in the 1990s, Dow stated that its annual TAB was between 1 megagram and 10 megagrams. Consistent with its obligations under 40 C.F.R. § 61.357(c), Dow annually submitted reports to update this initial Subpart FF report.

240. In the table attached to its initial report and in each annual report thereafter until the 2006 annual report, Dow failed to separately identify each waste stream at its point of waste generation in the Tyril, High Impact Polystyrene, and ABS Latex process units, and instead aggregated these waste streams together, in violation of Section 112 of the CAA, 42 U.S.C. § 7412, and its implementing regulations at 40 C.F.R. §§ 61.357(c); 61.355(b).

III. CLEAN AIR ACT: REQUEST FOR RELIEF

241. Pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b) and the Civil Penalties Inflation Act of 1990, the violations set forth in Claims 1 through 21 of this Complaint subject Dow to civil penalties of up to $27,500 per day for each violation between January 31, 1997, and March 15, 2004; and up to $32,500 per day for each violation between March 16, 2004, and January 12, 2009.

CLEAN WATER ACT

I. STATUTORY AND REGULATORY BACKGROUND

242. Section 301(a) of the CWA, 33 U.S.C. § 1311(a), prohibits the discharge of any pollutant by any person except, *inter alia*, in compliance with an National Pollutant Discharge Elimination System ("NPDES") permit issued by EPA or an authorized state pursuant to Section 402 of the Clean Water Act ("CWA"), 33 U.S.C. § 1342.

243. Section 502(12) of the CWA, 33 U.S.C. § 1362(12), defines "discharge of a pollutant" to mean, among other things, "any addition of any pollutant to navigable waters from any point source."

244. Section 502(6) of the CWA, 33 U.S.C. § 1362(6), defines "pollutant" as "spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water."

245. Section 502(7) of the CWA, 33 U.S.C. § 1362(7), defines "navigable waters" as "waters of the United States, including territorial seas."

246. Section 502(14) of the CWA, 33 U.S.C. § 1362(14), defines "point source" as "any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch,

channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged."

247. Section 402(a) of the CWA, 33 U.S.C. § 1342(a), provides that EPA may issue NPDES permits that authorize the discharge of any pollutant to navigable waters, upon the condition that such discharge will meet certain specific requirements of the CWA or such other conditions as EPA determines necessary to carry out the provisions of the CWA. In addition, EPA may prescribe conditions pertaining to test procedures, data and information collection, reporting, and such other requirements as deemed appropriate by EPA.

248. Section 402(b) of the CWA, 33 U.S.C. § 1342(b), provides that a state may establish and administer its own permit program, and, after EPA authorizes the state's program, may issue NPDES permits.

249. Pursuant to Section 402(b) of the CWA, 33 U.S.C. § 1342(b), the administration of the federal NPDES permit program has been delegated to the State of Michigan for discharges into navigable waters within its jurisdiction. 39 Fed. Reg. 26061 (1974).

250. Notwithstanding the delegation of NPDES permitting and enforcement authority to a state pursuant to Section 402(b) of the CWA, 33 U.S.C. § 1342(b), EPA retains the authority to commence a civil action for appropriate relief, including a permanent or temporary injunction, when any person violates, among other things, Section 301 of the CWA, 33 U.S.C. § 1311, or violates any of the terms or conditions of an NPDES permit. 33 U.S.C. § 1319(b).

251. Section 309(d) of the CWA, 33 U.S.C. § 1319(d), provides that any person who violates Section 301 of the CWA, 33 U.S.C. § 1311, or who violates any condition or limitation

of an NPDES permit issued pursuant to Section 402 of the CWA, 33 U.S.C. § 1342, shall be subject to the civil penalties not to exceed $25,000 per day for each violation.

252. The Civil Penalties Inflation Act of 1990, 28 U.S.C. § 2461 *et seq.*, as amended by the Debt Collection Improvements Act of 1996, 31 U.S.C. § 3701 *et seq.*, requires EPA to periodically adjust its civil penalties for inflation. On December 31, 1996, February 13, 2004, and December 11, 2008, EPA adopted and revised regulations entitled "Adjustment of Civil Monetary Penalties for Inflation," 40 C.F.R. Part 19, to upwardly adjust the maximum civil penalty under the CWA. For each violation that occurs between January 31, 1997, and March 15, 2004, inclusive, penalties of up to $27,500 per day may be assessed; for each violation that occurs between March 16, 2004, and January 12, 2009, inclusive, penalties of up to $32,500 per day may be assessed; and for each violation that occurs on and after January 13, 2009, penalties of up to $37,500 per day may be assessed. 60 F.R. 69360 (December 31, 1996); 60 F.R. 7121 (February 12, 2004); 73 F.R. 75340 (December 11, 2008).

II. CLEAN WATER ACT CLAIMS: 22 – 23

CLEAN WATER ACT
CLAIM 22
CWA: 33 U.S.C. § 1311; NPDES Permit No. MI0000868
Discharge of Pollutants without Permit Authorization

253. Plaintiff realleges and incorporates by reference Paragraphs 7-8 as if fully set forth herein.

254. At all times relevant to this Complaint, Dow has "discharged pollutants," within the meaning of Sections 502(6) and (12) of the CWA, 33 U.S.C. § 1362(6), (12), through an Outfall, designated as Outfall 031, to the Tittabawassee River in Michigan.

255. Outfall 031 is a "point source" within the meaning of Section 502(14) of the CWA. 33 U.S.C. § 1362(14).

256. The Tittabawassee River is a "water of the United States" and a "navigable water" within the meaning of Section 502(7) of the CWA. 33 U.S.C. § 1362(7).

257. Under the authority of Section 402(b) of the CWA, 33 U.S.C. § 1342(b), the State of Michigan issued Dow an NPDES permit for the Facility on June 30, 2004, with an effective date of October 1, 2004. This permit is numbered MI0000868 ("Dow's 2004 NPDES Permit"). Michigan issued this permit on the basis of information that Dow provided in an application submitted on March 29, 2002, as amended through October 10, 2003.

258. In its permit application, in violation of the instructions related thereto, Dow failed to adequately identify the following waste streams, operations, or processes: (1) for the herbicide formulations and packaging area: secondary containment wash water and storm water containing 2,4 D; and wastewater from railcar scrubbing; (2) for the chlorpyrifos solid formulation and packaging area: secondary containment storm water; (3) for the chlorpyrifos liquid formulation and packaging area: secondary containment storm water; and (4) waste streams treated by Dow but generated at the following offsite areas: Praxair; Quality Carriers/Quala Wash; Transport Service Company; Dow Corning Sil Tet and Trichlorosilanes; Dow Corning Emulsion Crumb Rubber process; and Hemlock Semiconductor Corporation.

259. The waste streams, operations, or processes that Dow failed to adequately identify in its 2002-03 permit application caused the addition of pollutants to the Tittabawassee River through Outfall 031.

260. The addition of these pollutants to the Tittabawassee River through Outfall 031 was not authorized by Dow's 2004 NPDES Permit and was in violation of Section 301(a) of the CWA, 33 U.S.C. § 1311(a).

CLEAN WATER ACT
CLAIM 23
CWA: 33 U.S.C. § 1311; NPDES Permit No. MI0000868
Failure to Comply with NPDES Permit Condition

261. Plaintiff realleges and incorporates by reference Paragraphs 7-8 and 254-257 as if fully set forth herein.

262. Part I, Section A, Paragraph 14.a of Dow's 2004 NPDES Permit required Dow to routinely review and update its Storm Water Pollution Prevention Plan ("SWPPP") to, among other things, identify all secondary containment structures and evaluate the reasonable potential for contribution of significant materials to runoff from secondary containment structures.

263. Between October 1, 2004, and March 27, 2009, Dow failed to comply with Part I, Section A, Paragraph 14.a of its 2004 NPDES Permit by failing to update its SWPPP to identify and evaluate runoff from the following areas: the herbicide formulations and packaging area; the chlorpyrifos solid formulation and packaging area; and the chlorpyrifos liquid formulation and packaging area.

264. The failures described in the preceding Paragraph were in violation of Dow's 2004 NPDES Permit and Section 301(a) of the CWA, 33 U.S.C. § 1311(a).

III. CLEAN WATER ACT: REQUEST FOR RELIEF

265. Pursuant to Section 309(d) of the CWA, 33 U.S.C. § 1319(d), and the Civil Penalties Inflation Act of 1990, the violations set forth in Claims 22 through 23 of this Complaint subject Dow to civil penalties of up to $27,500 per day for each violation between January 31, 1997, and March 15, 2004; up to $32,500 per day for each violation between March 16, 2004, and January 12, 2009; and up to $37,500 per day for each violation on and after January 13, 2009.

RESOURCE CONSERVATION AND RECOVERY ACT

I. STATUTORY AND REGULATORY BACKGROUND

266. The Resource Conservation and Recovery Act ("RCRA"), 42 U.S.C. §§ 6901 *et seq.*, was enacted on October 21, 1976. Subtitle C of RCRA establishes a comprehensive federal regulatory program for the management of hazardous wastes from their initial generation until their final disposal. 42 U.S.C. §§ 6921-6939. EPA has promulgated regulations pursuant to Subtitle C of RCRA that set forth the standards and requirements that are applicable to generators and transporters of hazardous waste and to owners and operators of facilities that treat, store, or dispose of hazardous waste. These regulations are found at 40 C.F.R. Parts 260 through 282.

267. Section 3002 of RCRA, 42 U.S.C. § 6922(a), authorizes EPA to promulgate regulations establishing standards applicable to "generators" of hazardous waste. Under 40 C.F.R. § 260.10, a "generator" means, inter alia, "any person, by site, whose act or process produces hazardous waste identified or listed in Part 261." The standards governing "generators" are found at 40 C.F.R. Part 262.

268. Section 3005(a)-(d) of RCRA, 42 U.S.C. § 6925(a)-(d), requires that any "facility" that treats, stores, or disposes of hazardous waste obtain a permit in order to operate lawfully, unless the facility obtains "interim status" pursuant to Section 3005(e) of RCRA, 42 U.S.C. § 6925(e). A "facility" means, inter alia, "all contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste." 40 C.F.R. § 260.10.

269. Under Section 3005(e) of RCRA, 42 U.S.C. § 3005(e), facilities meeting certain operational and permit application requirements were authorized to continue operating pending

final administrative action on the facility's permit application. In order to qualify this for "interim status," a facility had to demonstrate that: (1) it was in existence on November 19, 1980; (2) it had complied with Section 3010(a) of RCRA concerning notification of hazardous waste activity; and (3) it had applied for a permit. 42 U.S.C. § 6925(e).

270. Pursuant to Section 3006(b) of RCRA, 42 U.S.C. § 6926(b), any state may apply for and receive from EPA authorization to administer and enforce its own hazardous waste management program, provided the state requirements are consistent with and equivalent to federal requirements under RCRA.

271. On October 30, 1986, EPA granted authorization to the State of Michigan to administer and enforce a hazardous waste management program in lieu of the federal program. 51 Fed. Reg. 36804; 40 C.F.R. § 272.1150. The regulations comprising the applicable state hazardous waste management program for the State of Michigan are incorporated by reference into federal law at 40 C.F.R. § 272.1150. The State of Michigan's authorization has been periodically updated, and the regulations governing Michigan's hazardous waste management program are found at the Mich. Rules 299.9101 et seq.

272. Pursuant to Mich. Rule 299.9306 and 40 C.F.R. § 262.34(a), and subject to certain exceptions, a generator of hazardous waste may accumulate hazardous waste on-site for 90 days or less without a permit or operating license provided that the generator complies with all applicable requirements set forth in Mich. Rule 299.9306 and 40 C.F.R. § 262.34(a).

273. The failure to comply with any of the requirements of Mich. Rule 299.9306 subjects a generator to the licensing requirements of Mich. Rules 299.9502(1), 299.9508, and 299.9510.

274. Pursuant to Section 3008 of RCRA, 42 U.S.C. § 6928, EPA is vested with jurisdiction to enforce the provisions of the authorized state program.

275. Pursuant to Section 3008(g) of RCRA, 42 U.S.C. § 6928(g), any person who violates a requirement of RCRA is liable for civil penalties of up to $25,000 per day for each such violation.

276. Pursuant to the Civil Penalties Inflation Act of 1990, 28 U.S.C. § 2461 *et seq.*, as amended by the Debt Collection Improvements Act of 1996, 31 U.S.C. § 3701 *et seq.*, EPA was required to periodically adjust its civil penalties for inflation. On December 31, 1996, February 13, 2004, and December 11, 2008, EPA adopted and revised regulations entitled "Adjustment of Civil Monetary Penalties for Inflation," 40 C.F.R. Part 19, to upwardly adjust the maximum civil penalty under RCRA. For each violation that occurs between January 31, 1997, and March 15, 2004, inclusive, penalties of up to $27,500 per day may be assessed; for each violation that occurs between March 16, 2004, and January 12, 2009, inclusive, penalties of up to $32,500 per day may be assessed; and for each violation that occurs on and after January 13, 2009, penalties of up to $37,500 per day may be assessed. 60 F.R. 69360 (December 31, 1996); 60 F.R. 7121 (February 12, 2004); 73 F.R. 75340 (December 11, 2008).

II. RCRA CLAIM: 24

RCRA
CLAIM 24
RCRA: 42 U.S.C. § 6925(a); Mich. Rules 299.9502(1), 299.9508, and 299.9510
Storage of Hazardous Waste without a License

277. Plaintiff realleges and incorporates by reference Paragraphs 7-8 as if fully set forth herein.

278. At all times relevant to this Complaint, Dow was the "owner" and/or "operator," as those terms are defined under Mich. Rule 299.9106(f) and (g), and 40 C.F.R. § 260.10, of the

Facility. At the Facility, Dow manufactured, *inter alia*, plastic materials, pharmaceutical products and preparations, and agricultural chemicals.

279. Dow's Facility consists of land and structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste. Dow's Facility is a "facility" within the meaning of Mich. Rule 299.9103(r) and 40 C.F.R. § 260.10.

280. In its production processes, Dow used and/or uses materials that generated wastes containing, but not limited to, perc distillation tars, ethanol waste, distillation bottoms, spent solvent mixtures, and 2,6-dichlorophenol.

281. Dow characterized its perc distillation tars, ethanol wastes, distillation bottoms, spent solvent mixtures, 2,6-dichlorophenol and other wastes under the following hazardous waste codes: D001, D002, D003, D016, D019, D029, U240, F002, and K043.

282. The wastes referred in Paragraphs 280 and 281 are "solid wastes" within the meaning of Mich. Rule 299.9202 and 40 C.F.R. § 261.2, and "hazardous wastes" within the meaning of Mich. Rule 299.9203 and 40 C.F.R. § 261.3.

283. Before sending the wastes referred to in Paragraphs 280 and 281 for treatment, storage, or disposal, Dow collected these wastes for temporary periods in tanks, drums, packs, and totes. The tanks that these wastes were stored, transported, or otherwise handled in were "tanks" within the meaning of Mich. Rule 299.9108(a),(b) and 40 C.F.R. § 260.10. The drums, packs, and totes that these wastes were stored, transported, or otherwise handled in were "containers" within the meaning of Mich. Rule 299.9102(r) and 40 C.F.R. § 260.10.

284. Dow's holding of the wastes referred to in Paragraphs 280 and 281 in tanks and containers constituted hazardous waste "storage" within the meaning of Mich. Rule 299.9107(dd) and 40 C.F.R. § 260.10.

285. Dow is a "generator" within the meaning of Mich. Rule 299.9104(a) and 40 C.F.R. § 260.10.

286. Dow generated and managed hazardous waste at the Facility before November 19, 1980.

287. At all times relevant to this Complaint, Dow did not seek a hazardous waste storage license for its storage of the hazardous wastes referred to in Paragraphs 280 and 281 and did not have interim status for its storage of the hazardous wastes in Paragraphs 280 and 281.

288. At all times relevant to this Complaint, Dow did not have an extension to store the hazardous wastes referred to in Paragraphs 280 and 281 for more than 90 days.

289. Dow failed to comply with the following requirements necessary for an exemption from the requirement to obtain a hazardous waste storage license:

a. Failure to maintain secondary containment free of cracks and gaps. Cracks and/or pits occurred in the following secondary containment areas: V-4600 dike (December 2004); V-1135 dike (September 2003); and V-1135 (August 2005); and secondary containment for Tank H-1 in Building 489 (August 2005). By having these cracks and/or pits Dow failed to satisfy the requirement for license exemption found in Mich. Rule 299.9306(1)(a)(ii)

b. Failure to have a liner, vault, double-walled tank and/or equivalent device in two secondary containment areas. Even though Michigan approved an aggressive crack management program as an "equivalent device" for Dow's secondary containment areas, Dow did not comply with its own program: a crack in the V-4600 dike was uncorrected between December 2004 and August 2005, and a crack in the V-1135 dike was uncorrected between

September 2003 and August 2004. By not complying with its own program, Dow failed to satisfy the requirement for license exemption found in Mich. Rule 299.9306(1)(a)(ii).

c. Failure to conduct and/or document weekly inspections of hazardous waste container areas. On multiple occasions between February 2003 and July 2006, Dow did not conduct and/or document weekly inspections of areas where containers of hazardous wastes were stored. By not conducting and/or documenting these inspections, Dow failed to satisfy the requirement for license exemption found in Mich. Rule 299.9306(1)(a).

d. Failure to conduct daily inspections of hazardous waste tanks and maintain records. On approximately eleven occasions between December 2003 and October 2005, Dow did not conduct daily inspections of hazardous waste tanks. By not conducting these inspections, Dow failed to satisfy the requirement for license exemption found in Mich. Rule 299.9306(1)(a)(ii).

e. Failure to ensure that all applicable personnel undertake an annual review of RCRA requirements and failure to maintain training records. In 2004, Dow did not ensure that at least three employees who were required to undertake an annual review of RCRA requirements in fact undertook that review and Dow did not maintain training records for those three employees. Through these omissions, Dow failed to satisfy the requirement for license exemption found in Mich. Rule 299.9306(1)(d).

f. Failure to have secondary containment on hazardous waste tank systems. In August 2005, hazardous waste tanks V-901 and V-404 did not have secondary containment. By not having secondary containment, Dow failed to satisfy the requirement for license exemption found in Mich. Rule 299.9306(1)(a)(ii).

g. Storage of hazardous waste for greater than 90 days. In 2004 and 2005, Dow accumulated hazardous waste in two containers in Building 1382 and one container in Building 680 for longer than 90 days. By accumulating waste for longer than 90 days, Dow failed to satisfy the requirement for license exemption found in Mich. Rule 299.9306(1).

h. Failure to label hazardous waste containers with the Hazardous Waste Number. In 2005, Dow stored hazardous waste in three containers in Building 564 and did not label these containers with the Hazardous Waste Number associated with the waste contained therein. By failing to properly label these containers, Dow failed to satisfy the requirement for license exemption found in Mich. Rule 299.9306(1)(b).

i. Failure to date hazardous waste containers. In 2005, Dow stored hazardous waste in three containers in Building 298 and three containers in Building 1028 and did not label the containers with the date that the hazardous wastes first were put in. By failing to properly label these containers, Dow failed to satisfy the requirement for license exemption found in Mich. Rule 299.9306(1)(b).

j. Failure to label hazardous waste containers with the words "Hazardous Waste." In 2005, Dow stored hazardous waste in Tank V-4615 in Building 680 and Tanks V-901, V-404, and V-405 in Building 948 and did not label these tanks with the words "Hazardous Waste." By failing to properly label these tanks, Dow failed to satisfy the requirement for license exemption found in Mich. Rule 299.9306(1)(c).

290. By failing to comply with all of the applicable requirements for the exemption from licensing set forth in Mich. Rule 299.9306(1), Dow became an operator of a hazardous waste storage facility.

291. Dow's storage of hazardous waste without a license violated Section 3005(a) of RCRA, 42 U.S.C. § 6925(a), and the permit requirements of Mich. Rules 299.9502(1), 299.9508, and 299.9510.

III. RCRA: REQUEST FOR RELIEF

292. Pursuant to Section 3008(g) of RCRA, 42 U.S.C. § 6928(g), and the Civil Penalties Inflation Act of 1990, the violations set forth in Claim 24 of this Complaint subject Dow to civil penalties of up to $27,500 per day for each violation between January 31, 1997, and March 15, 2004, and up to $32,500 per day for each violation between March 16, 2004, and January 12, 2009.

PRAYER FOR RELIEF

Wherefore, based on the allegations set forth above, the United States requests that this Court:

1. Assess a civil penalty against Dow of up to $27,500 per day for each violation between January 31, 1997, and March 15, 2004; up to $32,500 per day for each violation between March 16, 2004, and January 12, 2009; and up to $37,500 per day for each violation on and after January 13, 2009;

2. Award the United States its costs in this action; and

3. Grant such other relief as the Court deems just and proper.

Respectfully Submitted,

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APPENDIX A
Complaint in US v. Dow (E.D. Mich. 2011)

Missed Monitoring Events – Claim 15

Missed Method 21 Monitoring Events

Unit/Building	*Applicable MACT Standards*	*Component Type*	*No. of Components Missed*	*Method 21 Monitoring Frequency*	*Time Period of Missed Monitoring*
Low Gloss ABS	H; JJJ	Valves	4	Quarterly	May 2003 – June 2006
Methocel	H; UUUU	Pumps	5	Monthly	Various between December 2005 and April 2006
Buildings 1, 458, 827, 963, 1200, and 1382	H; GGG	Screwed Connectors	6,698	One-time	One time prior to October 21, 2003
Buildings 477, 680, 858, 948, and 1028	H; MMM	Screwed Connectors	1,749	One-time	One time prior to December 23, 2004

Missed Weekly Visual Inspections of Pumps

Unit/Building	*Applicable MACT Standards*	*Component Type*	*No. of Components Missed*	*Visual Inspection Frequency*	*Time Period*
Building 477	H, MMM	Pumps	3	Weekly	2 weeks in the period between January 1, 2006, and February 28, 2006

APPENDIX B
Complaint in US v. Dow (E.D. Mich. 2011)

Open-Ended Valves and Lines Not Equipped with Closure Devices -- Claim 19

Year	Emission Unit or Building No. (Process)	*Number of Open-Ended Lines*
2004	*Various (as reported in Dow's Title V Deviation Report for July – December 2004)*	*Approx. 42*
2004	*EG85 (Cellulose)*	*3*
2004	*FGRULE290 (Renagel)*	*6*
2004	*EG77 (Polyglycol & Oxygenated Solvents)*	*2*
2004	*EG13 (Pesticides)*	*12*
2004	*EG11 (Pesticides)*	*1*
2004	*FGRULE290/599 Building*	*3*
2004	*EG49 (R&D)*	*3*
2004	*EGB1 (SB Latex)*	*2*
2004	*EG38 (SAN process)*	*4*
2004	*EG30 (ABS Latex)*	*2*
2005	*FGRULE290 (477 Building)*	*2*
2005	*EG77 (Oxide Derivates)*	*1*
2005	*EG49/684 Building (R&D)*	*1*
2005	*EG13 (Pesticides)*	*3*
2005	*EGB5 (Ethocel)*	*7*
2005	*EG32INCINERATOR*	*5*
2005	*EG49 (R&D)*	*5*
2006	*EGB2 (Methocel)*	*4*
2006	*EGB5 (Ethocel)*	*3*
2006	*EGB2 (Methocel)*	*1*
2006	*EG12 (Phenoxy Herbicides)*	*1*
2006	*EG31 (Low Gloss ABS)*	*1*
2006	*EG13 (Pesticides)*	*1*
2006	*EG30 (ABS Latex)*	*1*
July 2006	*Building 948*	*2*
	Total:	*128*